Plaster and Facade Systems

P2901_DSP.uk

Product Data Sheet 2024-08

UP 310

Cement plinth plaster

Product description

Mineral cement basecoat render specially for the plinth and cellar wall exterior. As a basecoat for tiles and particularly with high and very high levels of exposure to moisture (e.g. for wet rooms and areas of high humidity).

Composition

Cement, hydrated lime, graded limestone grains, water-retaining and water-repellent additives.

Storage

Store the bags on wooden pallets in a dry environment. Can be stored for at least 9 months.

Quality

In compliance with EN 998-1, the render is subject to initial type testing and continuous factory production control and bears the CE marking.

Properties and added value

- General-purpose rendering/plastering mortar GP acc. to EN 998-1
- Compressive strength category CS IV acc to EN 998-1
- For interiors and exteriors
- For machine or hand application

Field of application

Particularly suitable in exteriors as a plinth render on

- Masonry of compressive strength category > 8
- Normal weight concrete
- As a basecoat for mineral and paste-like finishing coats

In interiors on suitable types of masonry and concrete

- As a basecoat for mineral and paste-like finishing coats
- As a basecoat for tiles.

Application

Substrate and pretreatment

Substrate	Pretreatment
Masonry of compressive strength category > 8. Even and normally absorbent lime sandstone masonry	On highly absorbent substrates or in hot summer weather, apply a double render layer fresh in fresh
Masonry on weakly absorbent to non-absorbent and/or smooth, glossy lime sandstone masonry	Sockel-SM or Der Vorspritzer as a mineral bonding layer
Rough form work concrete, absorbent concrete, masonry with varying suction properties, small format multi-layer wood wool slabs	Sockel-SM or Der Vorspritzer (VP) as a mineral bonding layer
Smooth concrete, prefabricated concrete units	Sockel-SM as a mineral bonding layer
XPS-R insulation boards	Sockel-SM as a mineral bonding layer
Absorbent masonry made of small format bricks, random rubble walling and mixed brickwork	Der Vorspritzer as a mineral bonding layer (mechanical key)

Mineral bonding layer (with the exception of Der Vorspritzer) should be spread and ruled across the full surface with a widely notched trowel. Wait at least 1 day and a maximum of 3 days before application of further coats.

Preparation

Check the substrate for compliance with VOB part C, DIN 18350, chapter 3.1.1 and express legitimate concerns acc. to VOB part B, DIN 1961 paragraph 4 section 3. Check the plastering substrate by a scratch test, wipe test or wetting test and measure the temperature if appropriate. Clean the substrate of dust and loose parts and remove them ensuring that the surface is smooth. Cover easily-soiled building components before commencement in accordance with Code of Practice “Abklebe- und Abdeckarbeiten für Maler- und Stuckateurarbeiten” issued by the Bundesverband Ausbau und Fassade. Protect weather-exposed surfaces from precipitation and direct sunlight.

Substrate pretreatment according to the pretreatment table. All substrates must be stable, dry, even and free of grease and dust as well as free of any residual substances that may reduce the adhesion.

Machines / equipment

PFT mixing pump G 4

- Stator — D6-3
- Rotor — D6-3
- Mortar hoses — Ø 25 mm
- Wet mortar pumping distance — up to 30 m

Mixing

Mixing by hand

Mix the content of one bag with 5.6 litres of clean water without further additions until an application-ready lump-free consistence is achieved.

Mixing by machine

For machine application using mixing pumps, e.g. PFT G 4, set the desired consistence by adding water.

Application

Apply UP 310 as a basecoat in the plinth area at a minimum thickness of 15 mm on a plastering substrate if already available. In case of multi-layer render systems (basecoat, reinforcement and finish coats) ensure an average total render thickness of at least 20 mm. In interiors apply an average render thickness of 10 mm. Depending on the substrate, fins and protrusions etc. can be removed with a lattice plane when sufficiently hardened or the surfaces can be levelled and scraped.

Clean the machine and hoses with longer breaks in application. Do not leave the mortar and water hoses lying in the sun. Do not stir and apply material that has started to harden.

Work with multiple layers in case of render thicknesses exceeding 20 mm.

Full surface reinforcement render in exteriors

In case of exterior render surfaces where the render system is exposed to increased stress, e.g. particular exposure of the façade, use of freely textured, brushed or sponged finishing renders, with finishing renders < 2 mm grain size (acc. to DIN 18350, VOB part C, < 3 mm), high levels of moisture, considerable irregularities in the render substrate, increased residual moisture of the masonry, large area render thickness greater than 20 mm and insulation layers made of XPS-R with a strip width > 60 cm, a reinforcement basecoat with full surface mesh layer (reinforcement mesh 4x4 or 5x5 mm) with SM700 Pro or SM300 on the hardened basecoat is recommended. Embed additional diagonal corner reinforcement on all building openings.

Partial surface reinforcement e.g. with change of material, building openings etc.

In case of a change of materials in the render substrate, at locations where there is a risk of cracking, where XPS-R insulation boards are installed on a small surface, wood wool lightweight boards, different render thicknesses and expected stresses from the basecoat etc., embed basecoat mesh (8x8 mm) with at least 100 mm joint overlap and 200 mm overlap on all sides to the flanking component in the upper half of the basecoat.

Note	A full surface reinforcement basecoat is always preferable to partial surface reinforcement in exteriors.

Plinth application
After drying out, all rendered surfaces below the ground line shall be waterproofed/protected against moisture ingress, starting from basement wall waterproof barrier up to approx. 50 mm above the ground line using Sockel-Dicht acc. to DIN 18533-3.
For this purpose, apply Sockel-Dicht in a layer thickness of at least 1.2 mm (dry layer thickness min. 1 mm).
When using Sockel-SM Pro on UP 310, apply Sockel-SM Pro over the lower render stop profile on the existing building waterproof sealing or flanking building material / substrate and overlap by at least 50 mm. Additional subsequent moisture protection is not necessary.
When sufficiently dry, place a protective cover before it against damage (e.g. fleece laminated dimpled sheet and slip membrane) up to the ground line.

On a plaster base
On a plaster base applied according to manufacturers instructions, apply about a 10 mm thick coat of UP 310 and level it while pushing it into the plaster base. Roughen the surface with a broom. After setting, apply another layer about 10 to 15 mm thick and rule level. To minimize the occurrence of cracks on the render surface, apply a reinforcement render with Sockel-SM, SM700 Pro or SM300 and full surface mesh insert with Knauf reinforcement mesh 4x4 or 5x5 mm. The render thickness of the reinforcement render layer should be between 3 and 5 mm.
Insert additional diagonal reinforcement to reduce notch cracking on all building opening corners.

Substrate for tiling
Suitable as a substrate for tiles and floor slabs. The basecoat is generally a single-layer with a plaster thickness of at least 10 mm. The suitability as a base for the application of tiles is improved, if the plaster surface is applied as a tight coat with a straight edge/feather edge or scratched.
The surface texture must be matched to the requirements of the respective waterproofing type.
Allow to dry and set fully before a tile covering is applied. The tile adhesive must be suitable for the basecoat.

Application with water impact classes W0-I to W3-I acc. to DIN 18534.
The waterproofing layer required acc. to DIN 18534 should be matched to the basecoat. We recommend Knauf Sockel-Dicht.

Application temperature / climatic conditions
Do not apply with air, component and/or substrate temperatures below +5 °C and ensure that temperature does not fall below this temperature until the render has hardened sufficiently. Furthermore, the temperature should not exceed +30 °C during application.
In order to prevent rapid dehumidification of the fresh render by the exposure to direct sunshine (high surface temperatures), and/or strong wind (danger of cracks, reduction in strength) suitable protection measures / treatment (e.g. protective nets, keeping moist) are required.

Cleaning
Clean the equipment and tools with water immediately after use.

Coatings

Finishing renders
In favourable weather and drying conditions the application of further layers with Knauf top coats is undertaken after a drying time of 1 day per 1 mm render thickness. Substrate pretreatment may be required depending on the weather conditions and finishing coat. With RP 240 in 2 mm thickness, a continuous closed surface must be produced or the basecoat must be covered with Sockel-SM, SM700 Pro or SM300.

Notes	Render must be applied according to EN 13914, DIN 18550 and DIN 18350, VOB part C as well as the generally recognized building engineering rules and valid guidelines. With previous application of gypsum renders or plasters containing gypsum, it is essential that the plastering machine is thoroughly cleaned (wet zone, plaster spiral, rotor, dry zone, gear wheel, hoses: For dry material feed: transfer hood, supply hose, pressure vessel, injection hood, feed manifold). Heating in rooms should only be put into operation in stages. Rapid dehumidification, e.g. using dehumidifiers should be avoided.

P2901_DSP.uk UP 310

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Technical data

Description	Standard	Unit	UP 310
Reacton to fire	EN 13501-1	Category	A1
Graining	–	mm	1.0
Compressive strength	EN 1015-11	Category	CS IV
Bond strength Failure pattern	EN 1015-12	N/mm^2 –	≥ 0.08 A, B or C
Capillary water absorption	EN 1015-18	Category	W_c 2
Water vapour diffusion resistance μ	EN 1015-19	–	≤ 25
Thermal conductivity $\lambda_{10,dry,mat}$ at P = 50 % P = 90 %	EN 1745	 W/(m·K) W/(m·K)	 ≤ 0.82 ≤ 0.89

The stated technical data were evaluated acc. to the respective test standards. Deviations under site conditions are possible.

Material requirement and efficiency

Coat thickness mm	Consumption approx. kg/m^2	Yield approx. m^2/bag	 m^2/ton
10.0	14.5	2.1	69.0
15.0	21.7	1.4	46.0

The consumption values were determined under laboratory conditions. Additional consumption resulting from conditions in practice must be taken into account. The material consumption depends on the roughness, evenness and absorption properties of the substrate as well as the machinery used.

Product range

Description	Package	Graining	Packaging unit	Material number	EAN
UP 310	30 kg	1.0 mm	36 bags / pallet	00009723	4003950000379

Sustainability and environment

Short description	Unit	Value
VOC content acc. to RL2004/42/EC	%	Not relevant
VOC content acc. to RL2004/42/EC	g/l	Not relevant
Solvent-free and softener-free acc. to VdL-RL01 (Revision 4)	–	Not relevant

Observe safety data sheet!
For safety data sheet and CE marking see
pd.knauf.de

Videos for Knauf systems and products can be found under the following link:
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